AMENDMENTS TO THE DRAWINGS

The attached replacement drawing sheets include changes to FIGS. 1-9B as discussed in the "Remarks" section of this Amendment. This attached sheets replace the originally filed sheets containing FIGS. 1-9B.

Attachment: Replacement sheets containing FIGS. 1-9B

REMARKS

The application has been carefully reviewed in light of the Office Action mailed July 22, 2005. Applicant gratefully acknowledges the Examiner's statement that claims 14 and 17 contain allowable subject matter. No claims have been amended. No new matter has been included. Claims 1, 3, 4, 6 and 8-17 remain pending in the application.

The drawings stand objected to as not being in compliance with 37 C.F.R. § 1.121(d) because the filed drawings are considered informal. Applicant has prepared and, concurrently herewith, is submitting replacement drawings containing FIGS. 1-9B. Applicant respectfully requests that the objection be withdrawn.

Claims 1, 3, 4, 6, 8-13, 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pain et al. (U.S. Patent No. 5,886,659) ("Pain") in view of Long et al. (U.S. Patent No. 5,811,984) ("Long") and in further view of Pickering et al. (U.S. Patent No. 5,050,194) ("Pickering"). The rejection is respectfully traversed.

Claim 1 recites, *inter alia*, an image sensor comprising "an image receiving portion, having at least a pair of transistors and an input impedance, receiving said image information from said CMOS outputs, said image processing portion producing a current mode output and said image receiving portion receiving said current mode output." Claim 1 further recites "an active impedance matching device having a current source, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion by adjusting, with said current source, a bias current through said at least a pair of transistors." Claims 11 and 15 recite similar limitations.

The claimed invention relates to an image sensor comprising "an image processing portion" that drives its transmission line in the form of signal current. (Specification at 6). The "image receiving portion" receives the signals and defines its input impedance as the parallel impedance seen at the sources of the n and p channel transistors. *Id.* The impedance can be set by adjusting the bias current through the transistors via the current source. *Id.* By adjusting the bias current, the impedance of the claimed invention becomes relatively independent of the input current and as a result, can be kept constant. Therefore, the resulting reflected signal is minimized and thus, the transmission speed can be increased.

The cited references, whether taken alone or in combination, fail to disclose, teach or suggest all limitations of the claimed invention. As acknowledged by the Office Action, Pain does not explicitly disclose the "CMOS outputs being differential outputs and that an image receiving portion has at least a pair of transistors and an active impedance matching device having a current source being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion by adjusting, with said current source, a bias current through said at least a pair of transistors." (Office Action at 4).

The Office Action seeks to overcome the deficiencies of Pain by combining it with Long and Pickering. Long is cited by the Office Action as teaching an active impedance matching device having a current source. *Id.* Pickering is cited, according to the Office Action, as teaching a CMOS differential output implemented as a CMOS differential output driver for driving current mode signals over a transmission line between chips. (Office Action at 5). However, neither cited reference discloses, teaches, suggests or cures the deficiencies of Pain.

First, the cited references, whether considered alone or in combination, do not teach or suggest an image sensor comprising "an active impedance matching device having a current source, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion by adjusting, with said current source, a bias current through said at least a pair of transistors."

Although Long refers to active impedance matching, Long does not disclose, teach or suggest "an active impedance matching device having a current source, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion by adjusting, with said current source, a bias current through said at least a pair of transistors," as recited in claim 1. In fact, Long fails to even mention such a limitation.

Pickering, likewise, fails to mention, teach or suggest the above-quoted limitation. As discussed in Applicants' previous paper, Pickering uses matched impedances for transmission line matching, rather than by "adjusting, with said current source, a bias current through said at least a pair of transistors," as recited in claim 1.

Moreover, Applicant disagrees with the contention of the Office Action that Pickering teaches "a CMOS differential output implemented as a CMOS differential output driver ... for driving current mode signals over a transmission line ... between chips." (Office Action at 5). However, to the contrary, Pickering does not drive any current into the receiver input because, according to Pickering, such could cause damage to the components (column 2, lines 51-54).

Consequently, Pain, Long and Pickering, whether considered alone or in combination, do not disclose, teach or suggest all limitations of claims 1, 11 and 15.

Claims 3, 4, 6, 9, 10, 12, 13 and 16 depend from claims 1 and 15 and should be allowed for at least the reasons for allowance of their base claims. Moreover, the dependent claims recite unique combinations which provide additional reasons for allowance of the claims.

Claim 8 recites, *inter alia*, an image sensor comprising "an image receiving portion, having an input impedance, receiving said image information from said CMOS outputs, said image processing portion producing a current mode output and said image receiving portion receiving said current mode output." Claim 8 further recites "an active impedance matching device, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion."

For at least the reasons set forth above with respect to claim 1, Pain, Long nor Pickering, whether considered alone or in combination, teach, disclose or suggest "an active impedance matching device, said active impedance matching device being adapted to match said output impedance of said image processing portion to said input impedance of said image receiving portion." Therefore, the cited references fail to teach or suggest the limitations of claim 8.

In view of the above, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By_____

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Attachments